

WHAT IS CLAIMED IS:

- 1        1. A system for recording media content and for generating media
- 2        representations, the system comprising:
  - 3            an extraction module for extracting of media content from a media receiver;
  - 4            an output device for generating a media representation of media content extracted
  - 5            from the media receiver, the output device being coupled to the extraction
  - 6            module; and
  - 7            a media transfer interface for permitting communication between the output
  - 8            device and the media receiver, the media transfer interface being coupled
  - 9            to the media receiver.
- 1        2. The system of claim 1, further comprising media content recognition software
- 2        for recognizing features in media content.
- 1        3. The system of claim 2, wherein the media content recognition software further
- 2        comprises speech recognition software.
- 1        4. The system of claim 2, wherein the media content recognition software further
- 2        comprises optical character recognition software.
- 1        5. The system of claim 2, wherein the media content recognition software further
- 2        comprises face detection software.

1       6. The system of claim 2, wherein the media content recognition software further  
2   comprises speaker detection software.

1       7. The system of claim 2, wherein the media content recognition software further  
2   comprises keyframe selection software.

1       8. The system of claim 2, wherein the media content recognition software further  
2   comprises face recognition software.

1       9. The system of claim 1, further comprising processing logic for controlling  
2   display of a user interface, wherein the user interface permits the user to control actions  
3   of the output device.

1       10. The system of claim 1, further comprising processing logic for controlling the  
2   generation of a media representation.

1       11. The system of claim 1, further comprising a storage medium for storing  
2   media representations in electronic format.

1       12. The system of claim 1, wherein the media representation generated by the  
2   output device is stored on a digital storage medium.

1       13. The system of claim 1, further comprising one or more user interaction  
2       devices that permit the user to interact with the printer and control the printer's actions,  
3       wherein the user interaction devices are external to the printer.

1       14. The system of claim 1, wherein the media representation is generated in paper  
2       format that includes at least one user-selectable identifier allowing a user to access and  
3       control media content.

1       15. The system of claim 14, wherein the at least one user-selectable identifier  
2       comprises at least one barcode printed on the media representation.

1       16. The system of claim 15, wherein the at least one barcode further comprises at  
2       least one record barcode that can be scanned to record an associated media program.

1       17. The system of claim 15, wherein the at least one barcode further comprises at  
2       least play barcode that can be scanned to play an associated media program.

1       18. The system of claim 14, wherein the at least one user-selectable identifier  
2       comprises at least one numerical identifier which the user can type into an external device  
3       to access and control media content.

1       19. The system of claim 1, wherein the media representation is a document  
2       displaying scheduling information for media programs.

1       20. A method for recording media content and for generating media  
2 representations, the method comprising:  
3           extracting media content from a media receiver;  
4           generating a media representation of the media content; and  
5           communicating with a media receiver through a media transfer interface, wherein  
6           an output device communicates with the media receiver.

1       21. The method of claim 20, further comprising the output device using media  
2 content recognition techniques to recognize media content extracted from the media  
3 receiver.

1       22. The method of claim 20, further comprising the output device sending  
2 commands to the media receiver to control actions of the media receiver.

1       23. The method of claim 20, further comprising scheduling actions of the media  
2 receiver to occur at predefined times.

1       24. The method of claim 23, wherein scheduling actions further comprises  
2 scheduling generation of a media representation, wherein the generation is scheduled to  
3 occur at user-defined time periods.

1        25. The method of claim 24, wherein scheduling generation of a media  
2 representation further comprises entering scheduling preferences into a profile that  
3 controls actions of the output device which controls actions of the media receiver.

1        26. The method of claim 20, wherein generating a media representation further  
2 comprises generating a schedule representation of a list of media programs, wherein the  
3 schedule representation includes specific information about each media program.

1        27. The method of claim 26, wherein generating a schedule representation of a  
2 list of media programs further comprises formatting the schedule representation based on  
3 a pre-defined user preferences profile.

1        28. The method of claim 26, wherein generating a schedule representation of a  
2 list of media programs further comprises updating the generated schedule representation  
3 to include current schedule information.

1        29. The method of claim 26, wherein generating a schedule representation of a  
2 list of media programs further comprises:  
3            setting a media display to a channel that includes a schedule display showing  
4            media program scheduling information; and

5 performing optical character recognition on the schedule display of the media  
6 display to read schedule information content and generate a representation  
7 of the schedule display.

1 30. The method of claim 26, wherein generating a schedule representation of a  
2 list of media programs further comprises searching for specific user-defined features  
3 within the media content and displaying search results.

1 31. The method of claim 20, further comprising monitoring commands from an  
2 external interface, wherein the commands include a request to generate a media program  
3 schedule representation with user-defined parameters.

1 32. The method of claim 20, further comprising monitoring commands from an  
2 external device, wherein the commands include a request to update an internal table that  
3 stores the association between user-selectable identifiers printed on the media  
4 representation and the actions that can be executed on the output device in response to  
5 those user-selectable identifiers.

1 33. The method of claim 20, further comprising recording media content and  
2 storing the media content on a storage medium, wherein the stored media content can be  
3 played in response to commands received from an external device interface.

1       34. The method of claim 20, further comprising a web server with a common  
2       gateway interface for controlling the schedule for recording and playing of media  
3       content.

1       35. The method of claim 20 wherein generating a media representation further  
2       comprises printing media schedule information in a paper-based format.

1       36. The method of claim 35, further comprising selecting a user-selectable  
2       identifier on the paper-based format of the media schedule information to record the  
3       associated media program.

1       37. The method of claim 35, further comprising selecting a user-selectable  
2       identifier on the paper-based format of the media schedule information to play the  
3       associated media program.

1       38. The method of claim 26, further comprising updating a database that stores  
2       current schedule information and associated user-selectable identifier information.

1       39. The method of claim 26, further comprising advancing a schedule display,  
2       wherein advancing the schedule display comprises:

3            capturing a first frame of the current schedule display on a schedule channel;  
4            sending a command to the media receiver to advance the schedule display on the  
5            schedule channel;

6 capturing a second frame of the advanced schedule display on the schedule  
7 channel; and

8 comparing the first frame to the second frame to determine if the schedule has  
9 changed and the schedule display should be advanced .